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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,272	09/10/2003	Jin-Hee Kim	1567.1054	4031
49455	7590	09/12/2007		
STEIN, MCEWEN & BUI, LLP			EXAMINER	
1400 EYE STREET, NW			WEINER, LAURA S	
SUITE 300				
WASHINGTON, DC 20005				
			ART UNIT	PAPER NUMBER
			1745	
			MAIL DATE	DELIVERY MODE
			09/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/658,272	KIM ET AL.	
	Examiner	Art Unit	
	Laura S. Weiner	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 and 22-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8-7-07 has been entered.

Election/Restrictions

2. Applicant's election with traverse of Group I, claims 1-20 in the reply filed on 8-18-06 is acknowledged. The election of species of additive of Formula (1), (bisphenol A) where R1 and R2 are hydroxyl groups and R3, R4 are methyl groups and a solvent comprising a cyclic carbonate and a linear carbonate is acknowledged. Group II, claim 21 has also been examined. An additive comprising compound Formula (2) has also been examined.

3. Claims 13-20, 22-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8-18-06.

Response to Arguments

4. Applicant's arguments with respect to claims 1-12, 21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

5. Claims 1, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Whitney et al. (4,670,363).

Whitney et al. teaches in columns 8-10, claims 1-3 and 7-9, 13-16, an electrochemical cell comprising an electrolyte comprising an alkali salt, a first solvent and a second solvent where the first solvent can be N-methylpyrrole [Formula 2], etc. and the salt comprises LiPF₆, LiAsF₆, etc.

6. Claims 1, 3-4, 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (JP 08-138735, machine translation and abstract).

Yamamoto et al. teaches on page 2, a battery comprising an electrolyte comprising an organic solvent such as PC, EC, etc., a salt comprising LiBF₄, LiClO₄, LiPF₆, etc. and adding a pyrrole or pyrrole derivative Yamamoto et al. teaches in [0023], an electrolyte comprising 1M LiPF₆ in PC with 5 vol% of the additive 2 and 5-dimethyl pyrrole.

Art Unit: 1745

7. Claims 1, 3-6, 8-9, are rejected under 35 U.S.C. 102(b) as being anticipated by Abraham et al. (4,489,145).

Abraham et al. teaches in column 3 and Table 3, a secondary cell comprising THF/LiAsF₆ (1.5M) and 0.50-5.0 vol% of an additive such as N-methyl-pyrrole.

8. Claims 1, 3-6, 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamamoto et al. (JP 2002-124298, machine translation and abstract).

Hamamoto et al. teaches an electrolyte comprising a solvent and one or more kinds of heterocyclic compounds. Hamamoto et al. teaches on page 3, [0014-0016], that the heterocyclic compound expressed by formula (I) has a Y comprising a nitrogen atom which is substituted by an alkyl group and is present 0.001-0.8 wt%. Hamamoto et al. teaches on pages 5-6, an electrolyte comprising EC/DEC with 1 M LiPF₆.

9. Claims 1, 3-6, 8-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Takehara et al. (JP 2002-359002, machine translation and abstract).

Takehara et al. teaches an electrolyte comprising a lithium salt and nonaqueous solvent mainly composed of lactone compound and contains 0.1-10 wt% of nitrogen-containing aromatic heterocyclic compound. Takehara et al. teaches on page 3, [0015], that the heterocyclic compound can be a pyrrole such as 1-methyl pyrrole, 1-phenyl pyrrole, etc. Takehara et al. teaches in [0018], that the salt can be LiPF₆, LiAsF₆, etc.

Art Unit: 1745

10. Claims 1, 3-6, 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Okazaki et al. (JP 4-56079, abstract).

Okazaki et al. teaches an electrolyte comprising 0.1-5 vol% of a pyrrole derivative having a methyl group. Okazaki et al. teaches in the patent that the solvent can be PC, EC, etc. and the salt can be LiClO₄, LiAsF₆, etc.

11. Claims 1, 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Osaki et al. (JP 62-160671, abstract).

Osaki et al. teaches an electrolyte comprising PC, LiAsF₆ and a pyrrole is added. Osaki et al. teaches that 1.0 M of LiAsF₆ is used (see page 366).

Claim Rejections - 35 USC § 103

12. Claim 7 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamamoto et al. (JP 08-138735, machine translation and abstract) or Hamamoto et al. (JP 2002-124298, machine translation and abstract) or Takehara et al. (JP 2002-359002, machine translation and abstract) or Okazaki et al. (JP 4-56079, abstract).

Since Yamamoto et al. or Hamamoto et al. or Takehara et al. or Okazaki et al. teaches the same electrolyte comprising a lithium salt, an organic solvent and a bisphenol A additive then inherently the additive forms a passivation layer on the surface of the positive electrode must also be obtained.

In addition, the presently claimed property of the additive forms a passivation layer on the surface of the positive electrode would have obviously have been present once the Yamamoto et al. or Hamamoto et al. or Takehara et al. or Okazaki et al. product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-12, 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/817,761. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 10/817,761 claims in claims 1 and 5, an electrolyte comprising a lithium salt, an organic solvent and

Art Unit: 1745

an additive compound which initiates decomposition at between 4V and 5V which is selected from a bisphenol A compound. Application No. 10/817,781 claims in claims 6-9, that the additive compound is used in an amount of 0.01-10 wt%. Application No. 10/817,761 claims in claim 10 that the additive forms a passivation layer on the surface of a positive electrode. Application No. 10/817,761 claims in claims 11-15, the same lithium salts present in the same concentrations and the same organic solvents.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 1-2, 7-12, 21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6-13, 26-27, 41 of U.S. Patent No. 7, 223,500. Although the conflicting claims are not identical, they are not patentably distinct from each other because US 7, 223,500 claims in claim 1, an electrolyte of a lithium secondary battery comprising lithium salts, a first organic solvent and a carbonate-based additive. U.S. Patent No. 7, 223,500 claims in claims 26-27, that the electrolyte further comprises a swelling-inhibiting additive such as bisphenol. U.S. Patent No. 7, 223,500 claims in claims 6-7, that the lithium salts are LiPF₆, LiBF₄, LiSbF₆, etc. and are present in a concentration of 0.6-2.0 M. U.S. Patent No. 7, 223,500 claims in claims 11-13, that the electrolyte comprises a first organic solvent such as EC and a second solvent comprises methylpropyl carbonate, methylethyl carbonate, etc.

Since U.S. Patent No. 7, 223,500 claims the same electrolyte comprising a lithium salt, an organic solvent and a bisphenol A additive then inherently the additive forms a passivation layer on the surface of the positive electrode must also be obtained.

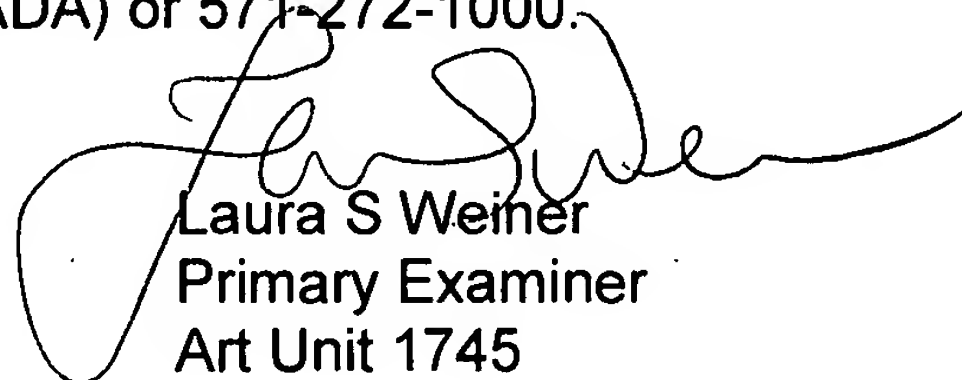
In addition, the presently claimed property of the additive forms a passivation layer on the surface of the positive electrode would have obviously have been present once the U.S. Patent No. 7, 223,500 product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura S Weiner
Primary Examiner
Art Unit 1745

September 5, 2007